

CHLORIDE

POWER PROTECTION

ACTIVE

- Unterbrechungsfreie Stromversorgung
- Uninterruptible Power System
- Alimentation Sans Interruption
- Sistema de Alimentación Ininterrumpida
- Gruppo di continuità
- Sistema ininterrupto de alimentação

TOWER
ACTIVE 700
ACTIVE 1000
ACTIVE 2000
ACTIVE 3000

RACK
ACTIVE 700-19
ACTIVE 1000-19
ACTIVE 2000-19
ACTIVE 3000-19



Bedienungsanleitung
Operating Manual
Manuel utilisateur
Instrucciones de servicio
Istruzioni per l'uso
Manual de instruções

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TOWER

ACTIVE	700
ACTIVE	1000
ACTIVE	2000
ACTIVE	3000

RACK

ACTIVE	700-19
ACTIVE	1000-19
ACTIVE	2000-19
ACTIVE	3000-19

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**Notice**

For reasons of clarity, these operating instructions do not contain complete and detailed information about product types and do not take into account all possible installation, operation and maintenance cases.

Should you require additional information, you can request the necessary information from your local CHLORIDE office (see section "CHLORIDE ADDRESSES" at the end of this manual).

The contents of these operating instructions shall not become part of or modify any prior agreement, commitment or relationship. The sales contract contains the entire obligations of CHLORIDE. The warranty contained in the contract between the parties is the sole warranty of . Any statements contained herein do not create any new warranties or modify the existing warranty.

**Warning**

Carefully read these instructions completely before installation in order to get accustomed with the correct handling of the CHLORIDE ACTIVE UPS. Otherwise, especially during installation and operation, dangerous situations could arise.

About these operating instructions

Device overview

The CHLORIDE ACTIVE UPS devices are delivered with various nominal powers and in various housings. The following table provides an overview of all device variants:

Housing	Designation	Order No.	Nominal power
Tower (upright device)	ACTIVE 700	570219.200	700 VA
	ACTIVE 1000	570220.200	1000 VA
	ACTIVE 2000	570221.200	2000 VA
	ACTIVE 3000	570222.200	3000 VA
Rack (rack-mounting device)	ACTIVE 700-19	570223.200	700 VA
	ACTIVE 1000-19	570224.200	1000 VA
	ACTIVE 2000-19	570225.200	2000 VA
	ACTIVE 3000-19	570226.200	3000 VA

Table 1: Overview of UPS devices

The following battery extensions are available:

Housing	Designation	Order No.	for UPS device
Tower (upright device)	BPACTIVE1000	570227.001	ACTIVE 1000
	BPACTIVE3000	570227.101	ACTIVE 2000 ACTIVE 3000
Rack (rack-mounting device)	BPACTIVE1000-19	570228.001	ACTIVE 1000-19
	BPACTIVE3000-19	570228.101	ACTIVE 2000-19 ACTIVE 3000-19

Table 2: Overview of battery extensions

The above listed rack-mounting devices (racks) with a mounting height of 2 HU are designed for horizontal installation in industrial standard 19-inch cubicles.

Notices regarding the EU Declaration of Conformity

The UPS devices CHLORIDE ACTIVE are in conformity with the following European directives:

73/23/EWG Directive of the council for adaptation of the legal regulations of the member states regarding electrical equipment for use within specific voltage limits, modified by directive 93/68/EWG.

89/336/EWG Directive of the council for adaptation of the legal regulations of the member states regarding electromagnetic compatibility, modified by directive 91/263/EWG, 92/31/EWG and 93/68/EWG.

Conformity is established through compliance with the following standards:

- EN 50091-1-1 : 1996
- EN 50091-2 : 1995

Additional information regarding adherence to these directives is included in the appendices NSR and EMC of the EU Declaration of Conformity.

If needed, the EU Declaration of Conformity can be requested from CHLORIDE.

Symbols and pictograms

The following symbols and pictograms are used in this handbook:



Danger

Indicates notices which, if not observed, endanger your life, your health, the reliability of your device or the security of your data.



Notice

Indicates additional information and tips.



Indicates a step that you must carry out.

Documentation structure

These instructions can be supplemented with additional sheets, which e.g. describe specific extensions or options.

Safety

Intended use

UPS devices serve as an uninterruptible power supply for connected loads. They are in compliance with all relevant safety regulations concerning information technology equipment, including electronic office machines for use in an office environment.

In certain configurations, battery packs are part of the UPS devices. These battery packs may only be connected electrically with the corresponding base device.

Safety Notices



Danger

Carefully read the following safety notices! Failure to observe the notices endangers your life, your health, the reliability of your device or the security your data.

- Use only suitable packaging to transport the device (protect against shock and impact).
- If the device is brought in from a cold environment, moisture condensation can occur. Before commissioning the device, it must be completely dry. For this reason, an acclimation time of at least two hours is required.
- When selecting a location for the device and during commissioning, observe the notices concerning environmental conditions given in chapter "Technical data" on page GB - 39.
- Rack-mounting devices as well as the corresponding battery extensions must only be mounted in horizontal position (see chapter "Installation notes for rack-mounting devices" on page GB - 19).
- This device is equipped with a safety-inspected mains line and must only be connected to a grounded earthing-contact socket.
- The button  **does not separate** the device **from mains**. To completely separate from mains, the UPS must be switched to bypass and the mains plug pulled (see chapter "Indicator and operating elements" on page GB - 12).
- Make certain that the socket on the device or the earthing-contact socket of the house installation is freely accessible.

- Upon disconnection from mains, the built-in battery continues to supply the loads.
- Lay the lines in such a way that no one can step on or trip over them and so that the lines are not pinched. When connecting the device, observe the notices in chapter "Installation and commissioning" on page GB - 19.
- During thunderstorms, data transfer cables must not be connected or disconnected.
- Ensure that no objects (e.g. jewellery chains, paper clips etc.) are left inside of the device.
- In the event of an emergency (e.g. damaged housing, operating elements or mains lines, penetration of fluids or foreign bodies), switch off the device, pull the mains plug and contact the responsible customer service representative.
- Repair work may only be carried out by authorised personnel. Unauthorised opening and improper repairs can expose the user to serious danger.
- Do not connect any devices which overload the UPS (e.g. laser printer or vacuum cleaner) or which draw DC current from the UPS (e.g. half-wave rectifiers found in hair dryers).
- When cleaning, observe the notices in chapter "Maintenance" on page GB - 35.
- The sum of the leakage currents (current in the earth conductor) from the UPS and connected loads must not exceed the value of 3.5 mA for the models ACTIVE 700(-19), ACTIVE 1000(-19), ACTIVE 2000(-19) and ACTIVE 3000(-19).

Introduction

These operating instructions contain all the information needed to install and operate the UPS.

The uninterruptible power supply (UPS) is connected between mains and the electrical load. It protects the load from mains interruptions, especially power failures.

This UPS operates according to the on-line principle. This means that the connected loads are supplied via the inverter of the UPS. This protects the load from mains supply disturbances and provides a secure mains supply for electrical loads (PCs, network servers, multi-console systems).

In case of a mains failure, the built-in, maintenance-free batteries provide uninterrupted power to the loads. In actual use, mains failures are, depending on the quality of the mains supply, relatively short in duration. Thus, the power supplied by the UPS is adequate to allow work to continue on your computer system until mains voltage has been restored. In the event of an extended mains failure, you should nevertheless store your data and discontinue your work.

You will be alerted by means of acoustical (buzzer) and optical (LED) alarms contained in the UPS that a mains failure has occurred or is occurring. Listed below are procedures which are intended to assist you in determining how critical it is that work be discontinued in the event of an extended mains failure.

Which procedure you select depends primarily on the length of time required to safely end your application and shutdown your operating system.

- In the extreme case, it is possible to work on a UPS-protected PC until the battery has reached its minimum power level. In the event of a mains failure, an acoustical signal is output by the UPS every 4 seconds; if the minimum power level of the batteries is nearly reached, this signal is output every second. This procedure is, however, seldom required. While battery recharging begins immediately following restoration of the mains supply, the procedure may require several hours to complete.

- The situation can be more accurately assessed using the load indicator on the UPS. If the load condition remains constant, it is possible to use this indicator to deduce the remaining backup time. The following figure illustrates the approximate values of the backup time for a fully charged battery at the start of the mains failure.

		Load in %	ACTIVE 700(-19)	ACTIVE 1000(-19)	ACTIVE 2000(-19)	ACTIVE 3000(-19)
Overload		 > 105				
		 95-105	6 min	7 min	10 min	6 min
Load		 75-95	7 min	8 min	13 min	7 min
		 55-75	10 min	12 min	19 min	11 min
		 35-55	16 min	20 min	31 min	18 min
		 1-35	33 min	36 min	60 min	38 min

Table 3: Backup time

- The current battery capacity can be read on the LED strip with the battery symbol (see table below).

	Battery capacity in %
	 1-35
	 35-55
	 55-75
	 75-95
	 95-100

Table 4: Battery capacity

- The most reliable method is, however, the use of the CHLORIDE UPS software. This can be used to continuously display the estimated remaining capacity of the battery prior to and during a mains failure. In addition, you can automate shutdown processes. Depending on the user program, operating system and computer hardware, you can ensure that, during a mains failure, user programs are automatically closed, users logged into the server are logged off, data are saved and the operating system is shutdown. For further information, you are referred at this point to the documentation for the CHLORIDE communication software.

After mains voltage is restored, the UPS automatically starts. The connected computer systems start their operating systems. Depending on what UPS software is installed, it is possible to restore the state which existed prior to the mains failure.

In the event of an overload or an internal failure, the load is supplied without interruption directly by the mains supply via the automatic bypass. As soon as normal operating conditions are restored, the system automatically switches back to inverter operation.

Below, the symbols located on the front side of the UPS are shown and described:

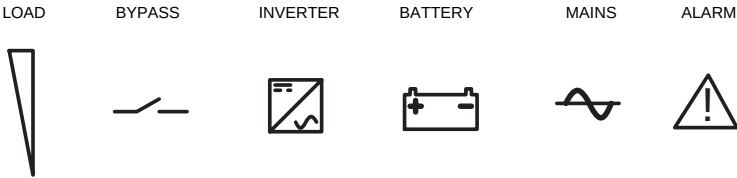


Fig. 1: Symbols on the front side of the UPS

Indicator and operating elements

Front side

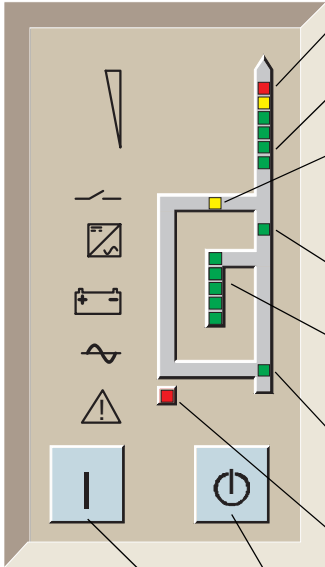


Fig. 2: UPS control panel

Note: Fig. 2 corresponds to the upright devices; the display and operating elements for rack-mounting devices are identical.

The **OVERLOAD** indicator illuminates if the UPS is overloaded.

The **LOAD** LED strip displays the load status of the UPS.

The **BYPASS** indicator illuminates when the UPS delivers voltage supplied from the mains supply via the bypass.

The **INVERTER** indicator illuminates when the inverter is activated.

The **BATTERY** LED strip indicates the charging state of the battery (normal operation).

The **MAINS** indicator illuminates when normal mains voltage is present at the UPS input.

The **ALARM** indicator illuminates when the UPS is in a faulty state. An acoustical warning signal is output at the same time; this signal is reset when the UPS is switched off.

The  button switches the inverter off and the bypass on.

The  button switches on the inverter.

The inverter is activated upon activation of the  button. Following a delay time of

approx. 5 seconds, the **BYPASS** indicator extinguishes and the **INVERTER** indicator illuminates.

Upon activation of the  button, the inverter is blocked and is switched to bypass. **The UPS output carries voltage.**

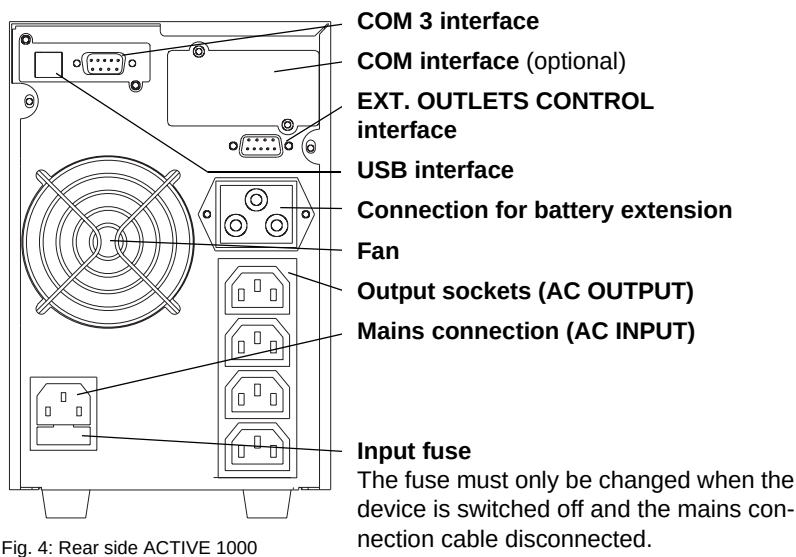
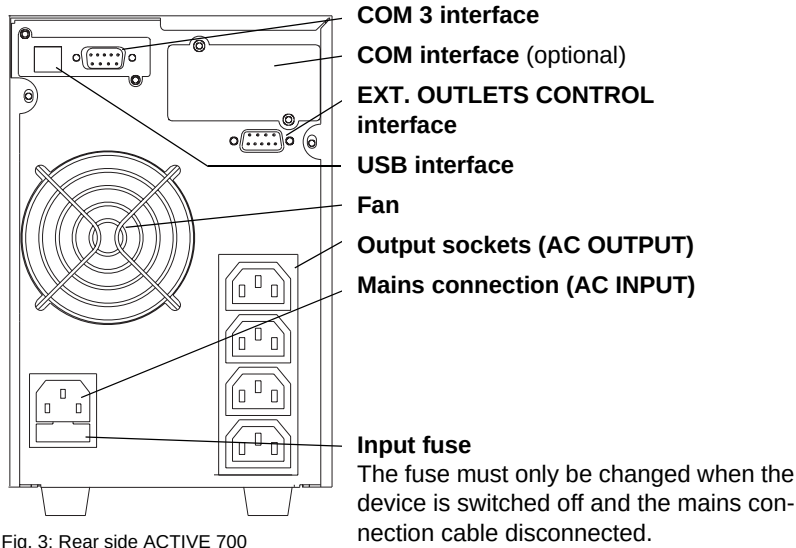


Notice

To trigger an action, the buttons must be pressed for at least 1 second! (Acceptance of the input is confirmed acoustically)

Rear side (upright devices)

Models ACTIVE 700 and ACTIVE 1000



Models ACTIVE 2000 and ACTIVE 3000

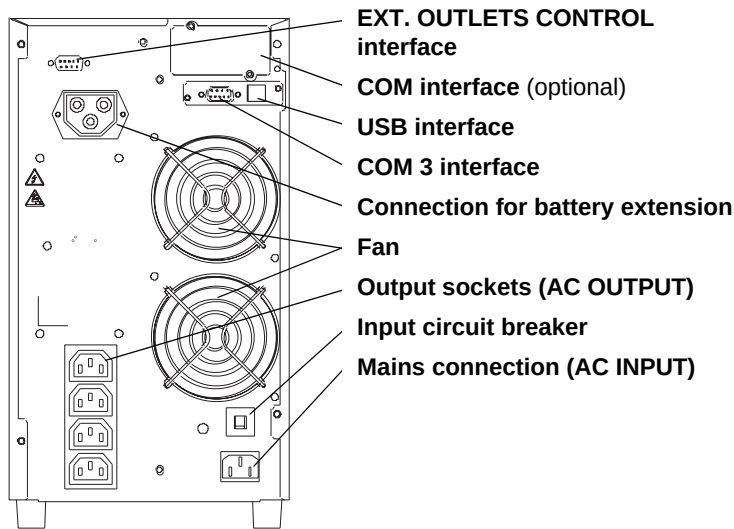


Fig. 5: Rear side ACTIVE 2000

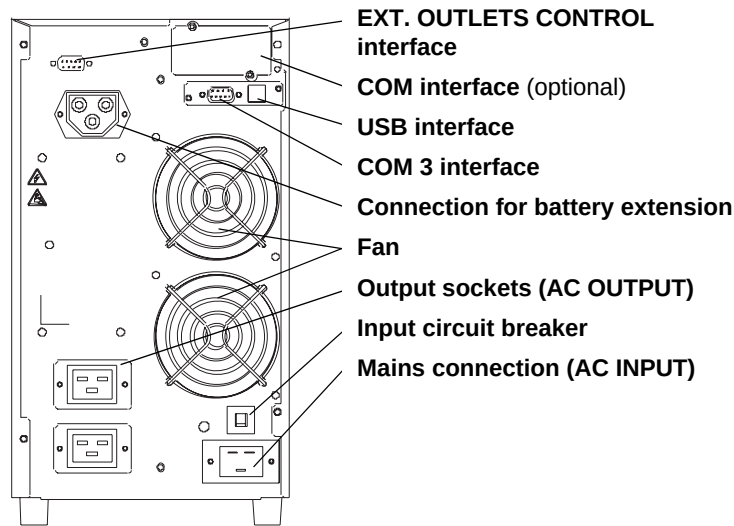


Fig. 6: Rear side ACTIVE 3000

Rear side (rack-mounting devices)

The following figures show the UPS rack-mounting devices with the corresponding battery extensions.



Notice

No battery extensions can be connected to the ACTIVE 700-19 device.

Models ACTIVE 700-19 and ACTIVE 1000-19

The following legend applies to figures Fig. 7 and Fig. 8:

- (1) **Mains connection (AC INPUT)**
- (2) **Output sockets (AC OUTPUT)**
- (3) **Input fuse**
The fuse must only be changed when the device is switched off and the mains connection cable disconnected.
- (4) **Interface COM 3**
- (5) **Interface USB**
- (6) **Interface EXT. OUTLETS CONTROL**
- (7) **Fan**
- (8) **COM interface (optional)**
- (9) **Nameplate**
- (10) **Battery-extension cable** (not with ACTIVE 700-19)
- (11) **Connection for battery extension** (not with ACTIVE 700-19)
- (12) **Battery switch** (not with ACTIVE 700-19)

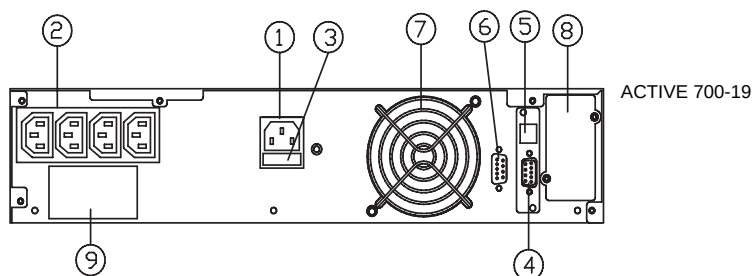


Fig. 7: Rear side ACTIVE 700-19

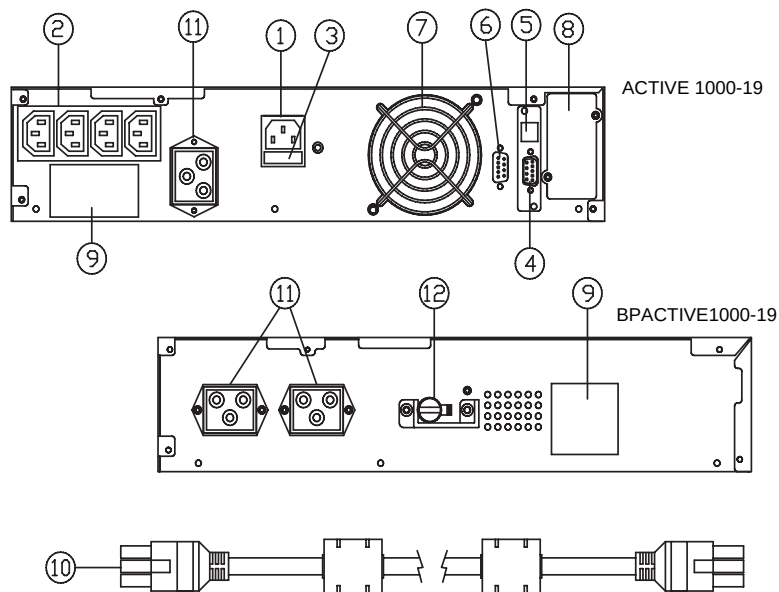


Fig. 8: Rear side, ACTIVE 1000-19 and battery extension



Notice

To connect the BPACTIVE1000-19 battery extension to the UPS ACTIVE 1000-19, use the separate cable (10) provided in the delivery contents.

Models ACTIVE 2000-19 and ACTIVE 3000-19

The following legend applies to figures Fig. 9 and Fig. 10:

- (1) Mains connection (AC INPUT)
- (2) Output sockets (AC OUTPUT)
- (3) Input circuit breaker
- (4) Interface COM 3
- (5) Interface USB
- (6) Interface EXT. OUTLETS CONTROL
- (7) Fan
- (8) COM interface (optional)
- (9) Nameplate
- (10) Battery extension cable (permanently mounted)
- (11) Connection for battery extension
- (12) Battery switch

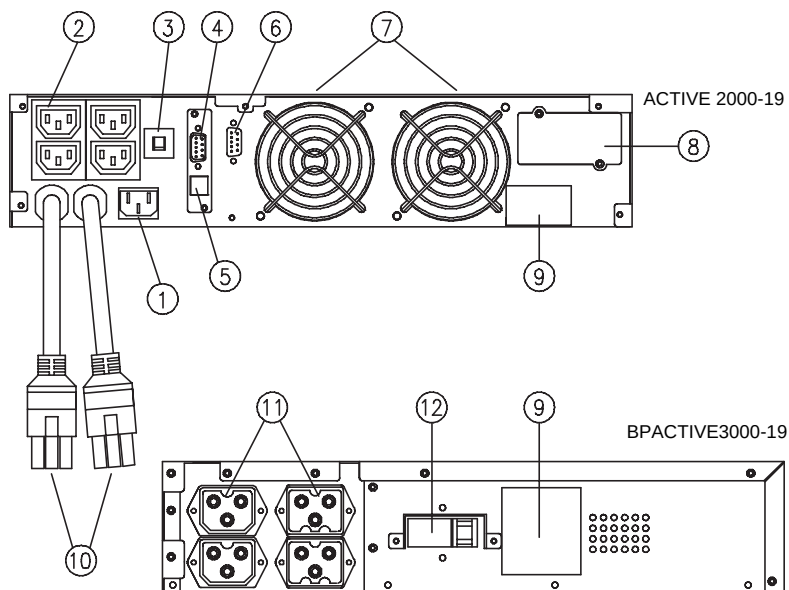


Fig. 9: Rear side ACTIVE 2000-19 and battery extension

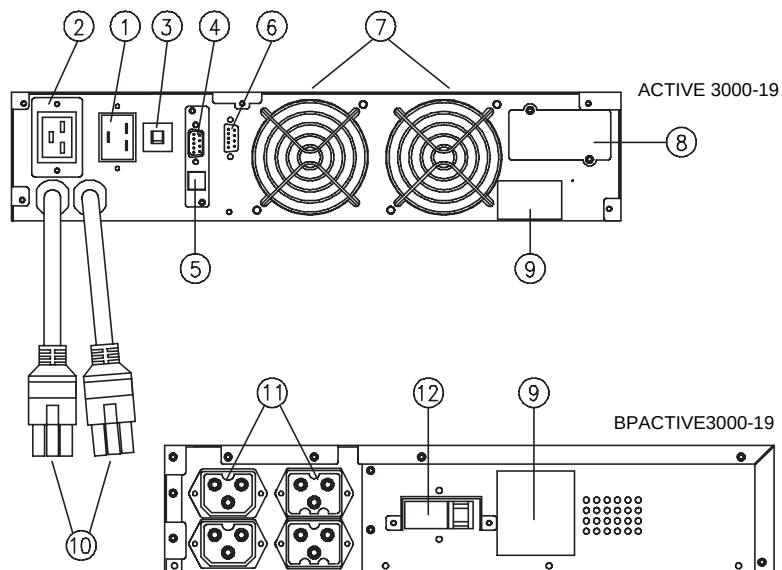


Fig. 10: Rear side ACTIVE 3000-19 and battery extension



Notice

Included in the delivery contents for each BPACTIVE3000-19 battery extension are two battery extension cables. The first extension is connected to battery cable (10) of the UPS. Each additional extension is connected via the two aforementioned cables. Protection against polarity reversal at the battery extensions is ensured through the coding of the plug (10) on the UPS device and the connection socket (11).

Installation and commissioning

- **Inspect the packaging and the device for damages.**



Should you find damages, please contact the delivery firm immediately.

Scope of delivery

- This manual
- UPS device
- Connection cable with IEC 320 plug for the UPS input
- Connection distributor with IEC 320 connection for the UPS output
- Communication software (CD)
- RS 232 interface cable

Installation notes for rack-mounting devices

Selecting the installation site:

All rack-mounting devices (ACTIVE ...-19) are intended for horizontal installation in 19-inch cubicles.



Notice

When installing the UPS, bear in mind the large weight of the individual components.

- **For weight purposes, mount the devices as low as possible in the cubicle.**
- **When mounting UPS systems consisting of multiple components, mount the battery extensions either directly below or directly above the UPS rack device.**

Mechanical fixing:



Notice

The devices must be fixed in the cubicle on both sides. Moreover, the front plate of the device must be screwed to the cubicle. The device must only be installed in horizontal position.

- ▶ **Secure both sides of the device in the cubicle.**
- ▶ **If necessary, use the included installation rails. When used, these allow the device to be easily inserted into and pulled out of a 2 HU installation slot.**

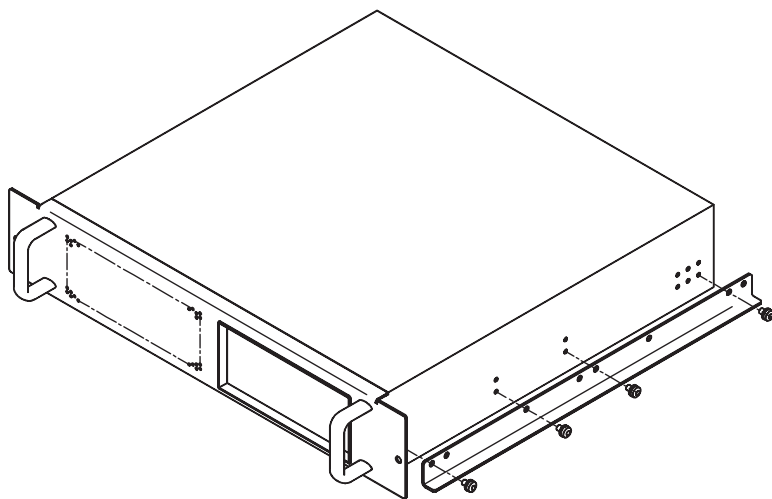


Fig. 11: Installing the slide rails on the UPS or battery extension

Slide rails for the installation in cubicles are available as accessories for various cubicle systems. To fix the device in the horizontal position, the front plate has to be fixed to the 19-inch cubicle at the indicated points on both sides of the device.



Notice

It is not permissible to fix the device only at the front plate. This may damage the device and/or other mounted devices.

Installing the UPS devices



Notice

When installing the rack-mounting devices (ACTIVE ...-19), observe the additional information in chapter "Installation notes for rack-mounting devices" on page GB - 19.

- ▶ **Unpack the device and place it on a solid, horizontal base.**
- ▶ **Do not stack multiple devices or battery packs on top of one another. Do not place other objects on the device.**
- ▶ **Connect the UPS to an earthing-contact socket (PE) at (AC INPUT).**



Danger

As soon as the UPS is connected to the AC mains supply, voltage is available at the output sockets (AC OUTPUT), even when the UPS is not switched on via the button on the front side.

The "MAINS" and "BYPASS" LEDs illuminate.



Danger

Keep the air inlet and outlet openings on the rear and front sides of the device free of obstruction. Do not operate the device or the battery packs upside down or on their sides.



Notice

For proper operation of the UPS, use only the supplied connection cables. The total length of the connection cables at the UPS output must not exceed 10 m.

The devices are provided with phase detection. If the "MAINS" LED flashes:

- ▶ **pull out the mains plug, turn it 180 degrees and plug it back into the mains socket.**

The "MAINS" LED now illuminates permanently.

Commissioning the UPS devices

Upon connection to mains, the batteries in the UPS are charged automatically.

- ▶ **Before using the device, charge the batteries for 6 hours.**

You may use the UPS immediately without charging the batteries, however the specified maximum backup time (or discharge time) is not yet available.

- ▶ **After charging, connect your loads to the UPS.**



Notice

Do not connect any devices which overload the UPS or which draw direct current from the UPS (e.g. hair dryer, vacuum cleaner).

If an interface (RS 232 / USB) is used:

- ▶ **Connect the connection cable (accessory) between the UPS and the computer system.**

Observe any additional notices provided in the material supplied with your accessory.

- ▶ **Switch on your loads.**

- ▶ **Now switch on the UPS by pressing the  button on the front side.**

In addition to the "MAINS" and "BYPASS" indicators, the "LOAD" (output load) indicator now illuminates. After a few seconds, the "INVERTER" indicator also illuminates and the "BYPASS" indicator extinguishes. The UPS now operates in online operation.



Danger

If the "LOAD" indicator (output load) displays more than 100 % and an acoustical warning (1 signal tone/second) sounds, too many loads are connected to the UPS. If only one load has been connected to the UPS, the power requirement exceeds the nominal power of the UPS and a larger UPS must be used.



Notice

UPS devices can also be commissioned without the presence of mains voltage. The batteries should, however, be sufficiently charged (see above).

**Notice**

On delivery, the nominal voltage of the UPS devices is 230 V. Using software, the output voltage of the UPS can be set to other values (see Table 7 on page GB - 39). The required software can be downloaded from the CHLORIDE Internet page (<http://www.chloridepower.com>).

Commissioning of an external battery extension

The table below contains an overview of the designations of the battery extensions available for the UPS devices.

Upright devices: A maximum of **two** battery extensions may be connected to a UPS device.

Rack-mounting devices: A maximum of **two** battery extensions may be connected to the ACTIVE 1000-19 UPS device and **five** battery extensions to the ACTIVE 2000-19 and ACTIVE 3000-19 UPS devices.

UPS model	Battery extension model	Battery used	Maximum number which may be connected
ACTIVE 700	not possible		
ACTIVE 1000	BPACTIVE1000	2 x (3 x 7.0 Ah)	2 pieces
ACTIVE 2000	BPACTIVE3000	2 x (8 x 7.0 Ah)	2 pieces
ACTIVE 3000	BPACTIVE3000	2 x (8 x 7.0 Ah)	2 pieces
ACTIVE 700-19	not possible		
ACTIVE 1000-19	BPACTIVE1000-19	2 x (3 x 7.0 Ah)	2 pieces
ACTIVE 2000-19	BPACTIVE2000-19	1 x (8 x 7.0 Ah)	5 pieces
ACTIVE 3000-19	BPACTIVE3000-19	1 x (8 x 7.0 Ah)	5 pieces

Table 5: Battery extensions (maximum expansion)

**Danger**

Make certain that the circuit breaker on the battery extension is in the "OFF" position.



For models ACTIVE 1000(-19) to ACTIVE 3000(-19), connect the battery extension to the UPS using the supplied cable.

The arrangement of the connection cable is shown in the following figures using the upright device as an example.

- Move the circuit breaker on the battery extension to the "ON" position.



Notice

When operating with an external battery extension, the charging process requires additional time.

Connecting battery extension using the ACTIVE 1000 through ACTIVE 3000 as an example:

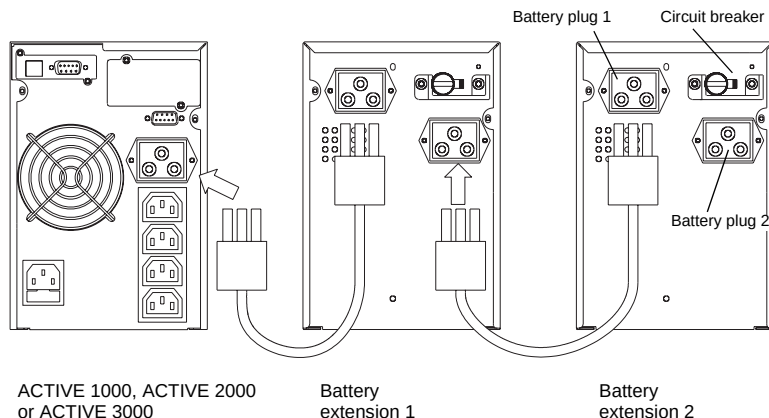


Fig. 12: Connection of battery extensions

Special information for ACTIVE 2000-19 and ACTIVE 3000-19



Notice

Please note that the ACTIVE 2000-19 and ACTIVE 3000-19 devices do not contain internal batteries. Therefore, during commissioning of the first connected BPACTIVE3000-19 battery, they do not provide protection against mains failure!

If no battery is connected to the device, an alarm is output.

- To cancel the alarm, move the battery circuit breaker to the "ON" position or connect the battery.
- Then acknowledge the alarm by pressing the  button.

- Now it is possible to switch to online operation by pressing the  button.

The device again tests the battery voltage (device beeps) and remains in bypass mode until a constant battery voltage is present.

**Notice**

If more than one battery extension is connected to the ACTIVE 2000-19 and ACTIVE 3000-19 devices, the actual number of battery extensions is to be set as described in the following section "Adjusting the number of external battery extensions".

Adjusting the number of external battery extensions

**Notice**

The UPS calculates the available battery capacity. For a correct calculation, it is necessary to set the number of externally connected battery extensions. Proceed as follows:

- Press the  button to switch the UPS to BYPASS operation.
- Press the  button again and do not release it until the UPS emits an acoustical signal.

After you have released the button, all LEDs on the "BATTERY" indicator flash twice. The current setting for the number of externally connected battery extensions is then displayed. The possible displays are shown in the figure below.

- You can now select the number of connected external battery extensions by pressing the  button multiple times.

**Notice**

If you do not press the button within 3 seconds, the UPS exits the mode and you must restart the adjustment procedure.

Once the correct number of connected external battery extensions is displayed, the information must be saved.

- To do this, press the  button and keep pressed down until an acoustical signal tones.

The adjustment procedure is now concluded.

The following graphic shows the displays of the BATTERY LED strip possible while setting the number of external battery extensions:

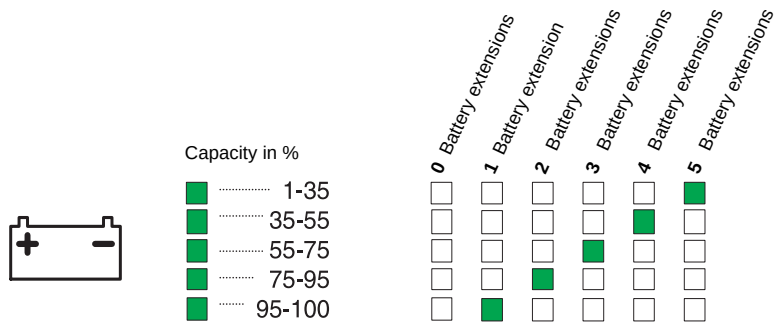


Fig. 13: Number of external battery extensions



Notice

Upon conclusion of the adjustment procedure, the UPS is in bypass operation. Switch the UPS to online operation by pressing the  button for at least 1 second.

Operational behaviour

Checking the operational readiness

- ▶ **Now disconnect the UPS from the mains supply in order to check the mains backup function.**

If functioning properly and if batteries are charged, a signal tone should be audible in 4-second intervals. The "MAINS" LED (mains voltage) extinguishes. If the pause between the signal tones shortens to 1 second, the UPS can continue to provide power for a maximum of 3 minutes before it automatically shuts down.

Your computer system is powered by the batteries up until the end of the backup time. If this is not the case, refer to chapter "Troubleshooting" on page GB - 37.

- ▶ **Reconnect the UPS to mains.**

Your UPS is now again ready for operation. Note that the batteries must be recharged before the full backup time is again available.

Automatic test

Lamp test

- ▶ **While the device is connected to mains, press the  button for at least 1 second in order to switch the device to bypass operation.**



Notice

The supplied load is not protected from mains disturbances in this operating mode!

The input is confirmed by a single acoustical signal.

- ▶ **Then press the  button for at least 1 second in order to switch the device back to online operation.**

The elements of the "BATTERY" LED strip indicate the corresponding charging state of the battery. The "MAINS" and "INVERTER" indicators illuminate.

Initially, all elements of the "LOAD" LED strip illuminate. Beginning with the 1 - 35 % indicator, the remaining elements in this LED strip are extinguished one after the other. Afterward, the elements which correspond to the load state of the device illuminate.

After approx. 5 seconds, the "BYPASS" indicator extinguishes and the "INVERTER" indicator illuminates. The connected loads are supplied from the mains supply via the inverter.

Battery test

The device must be in online operation.

► With the device connected to mains, press the  button for at least 1 second.

- The input is confirmed by a single acoustical signal, and the connected load is now supplied by the battery for 10 seconds.
- The elements of the "BATTERY" LED strip correspond to the charging state of the battery and the "LOAD" LED strip corresponds to the load factor. The "MAINS" and "INVERTER" indicators illuminate. An acoustical signal sounds during the test (as in battery operation of the UPS).
- If the test has been completed successfully, the "BATTERY" LED strip ceases to flash after approx. 10 seconds and the UPS returns to online operation. If a problem exists with the batteries, an alarm is triggered.

Operating modes

The UPS has three different operating modes when it is switched on.

Normal operation (mains supply present)

The loads are supplied directly from mains via the inverter.

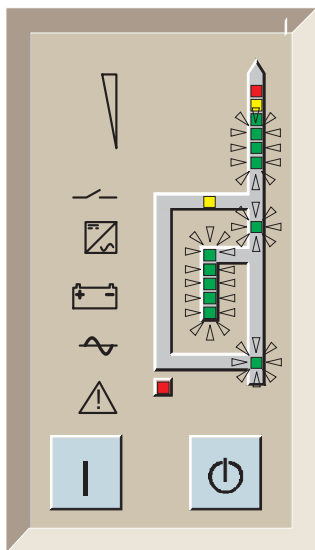


Fig. 14: UPS control panel in normal operation

Battery operation (mains failure)

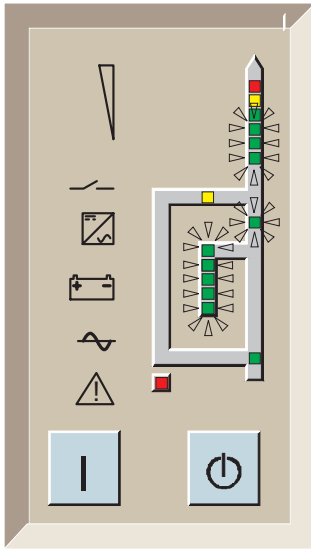


Fig. 15: UPS control panel in battery operation

In the event of a mains failure, the inverter supplies the loads without interruption; the power is supplied by the battery.

In this operating mode, an acoustical sound is emitted in intervals of approx. 4 seconds. If the minimum power level of the battery is reached, the signal is emitted every second.

Bypass operation (overload > 130 %)

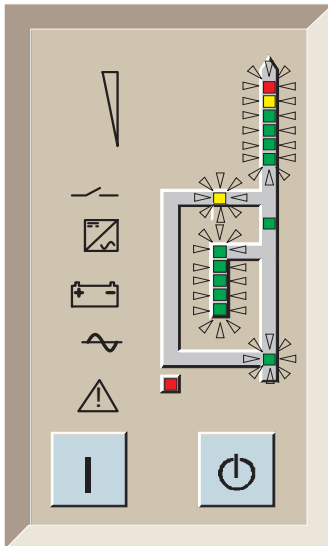


Fig. 16: UPS control panel in bypass operation

In the event of a large overload (> 130 %), the device switches to bypass and the inverter is blocked. Power is supplied by the mains supply.

This is not a normal operating state. If the mains supply fails, the loads are no longer supplied (no UPS operation).

Interface description

The UPS provides a COM 3 standard interface, a USB and an optional COM interface. These combine protocol-data transfer via a serial RS 232 interface or USB interface and the signal exchange via a contact interface (UPS interface). Moreover, an interface is provided for controlling switchable load distributors (ECO).

The interfaces can be used for:

- direct communication between UPS and computer
- integrating the UPS as a client into a network with central monitoring (SNMP)
- passing on operating states to external message systems
- load management by means of switchable load distributors

The necessary communication software packets, interface cards and extension modules are available as accessories.

COM 3 standard interface

The 9-pin Sub-D connection (pin contacts) carries the RS 232 signals.

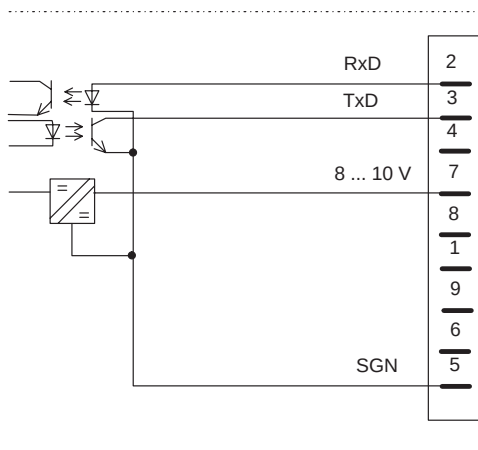


Fig. 17: COM 3 interface

The COM 3 interface is electrically isolated from all other current circuits.

- SGN at pin 5
This connection is the reference point for all signals.
- RXD at pin 2 and TXD at pin 3
correspond to the normal assignment of an RS 232 interface.
- In addition, an isolated auxiliary voltage is made available at pin 7
(+8 ... +10 V DC).

USB interface

As with the COM 3 standard interface, the USB interface facilitates the protocol-data transfer. A standard communication cable can be used for establishing communication between the UPS and PC. If the USB interface is used for communication purposes, the COM 3 interface is not operational.

Optional COM interface

The optional COM interface can be fitted with various interface cards. The code located next to the plug is then dependent on the interface card model. A detailed description is included with the various interface cards, which are available as accessories.

Possible interface cards: SNMP adapter cards for integrating the devices into a network or potential-free signalling contacts as per COM 1 (SIC assembly). Observe the installation instructions included with the accessory.

Described below is the function of the interface signals in the COM 1 variant. The optional COM 1 interface makes available potential-free signalling contacts, a shutdown input and an isolated auxiliary voltage.

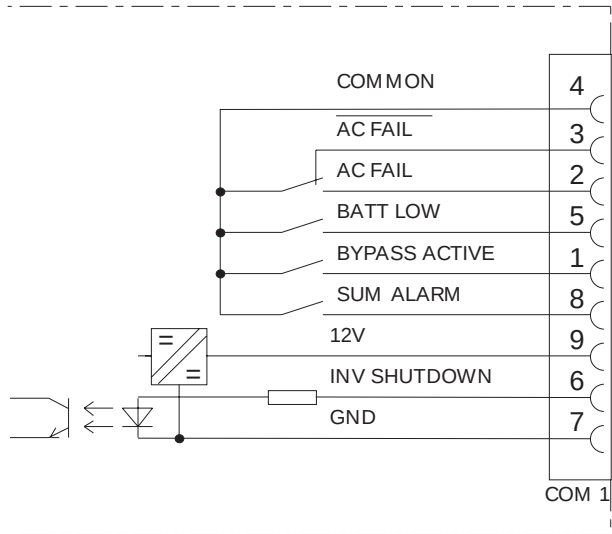


Fig. 18: COM 1 interface

INV SHUTDOWN

This input (pin 6: high signal +5 V ... +12 V, $t \geq 1$ s, pin 7: 0 V) makes it possible for the control computer to switch off the UPS in the event of a mains failure. Upon mains restoration, the UPS starts independent of this signal state.

AC FAIL

(N.O. between pins 2 and 4, N.C. between pins 3 and 4)

This signal is active when the mains voltage at the UPS input is not present for at least 10 seconds or the mains voltage exits the tolerance range. The signal is cancelled 850 ms following mains restoration.

BATT LOW

(N.O. between pins 5 and 4)

This output is active when the battery can continue to supply current at the nominal load for only approx. 3 minutes.

BYPASS ACTIVE

(N.O. between 1 and 4)

This signal is active when the device has been switched to bypass, the inverter is blocked and the power is supplied from the mains supply.

SUM ALARM

(N.O. between 8 and 4)

This output is active when one of the messages "AC FAIL", "BATT LOW" or "BYPASS ACTIVE" has been output or the "ALARM" display on the front side illuminates.

The contact rating of the signalling contacts is 1 A / 24 V DC or 1 A / 120 V AC.

In addition, an isolated auxiliary voltage **12 V DC** is made available (pin 9: +12 V, 50 mA; pin 7: GND)

EXT. OUTLETS CONTROL interface

The UPS is capable of switching specific connected loads through the EXT. OUTLETS CONTROL interface. In combination with an output distributor (ECO), available as an accessory, it is thus possible to operate a load management system. For a description of the functionality, please refer to the operating instructions included with the output distributor.

Maintenance

The UPS requires no maintenance by the user. When the usable lifetime of the battery has expired, the UPS and the battery connections eventually connected must be replaced by the responsible customer service representative.

As a rule, the usable lifetime of the battery is 4 years at 25°C ambient temperature; it is, however, dependent on the frequency and duration of mains failures.

The device indicates that the battery usable lifetime has expired by flashing the "BATTERY" LED strip. The flash frequency is approx. 0.25 Hz (2 seconds on and 2 seconds off). In addition, an acoustical signal is emitted every minute.

- ▶ **Check whether the backup time of the UPS is still adequate for your application (see "Checking the operational readiness") in regular intervals (6 ... 12 months).**

Storage

When storing for longer periods in regions with moderate climates, the batteries should be charged every 3 months for 5 hours. In areas with higher temperatures, this interval should be reduced to 2 months.

- ▶ **Connect the UPS, as described in chapter "Installation and commissioning", to an earthing-contact socket. For the models with permanent connection, switch on the input circuit breaker located on the rear side of the device.**
- ▶ **After 5 hours, pull out the mains plug and uninstall the UPS in reverse order of that described in chapter "Installation and commissioning".**
- ▶ **Record the charging date, e.g. on the packaging.**

Cleaning

**Danger**

Risk of electrical shock during cleaning an operationally ready UPS



Switch off the UPS by pressing the  button and pull the mains plug out of the socket.

When cleaning, do not use scouring agents or cleaning agents which are damaging to plastics.

Make certain that no fluids enter the interior of the UPS.

Make certain that the ventilation slits on the UPS remain open.

The surface of the UPS housing can be cleaned with either a dry or damp cloth.

Troubleshooting

If, in spite of the high reliability of this device, problems should occur, please check the following points before contacting the responsible customer service representative:

- Is the mains voltage present at the UPS input?
- Is the input fuse defective or have circuit breakers tripped?

If you contact the responsible customer service representative, please have the following information ready:

- Device information = model, order no., series no. as per nameplate
- An exact description of the problem (what loads are being operated, does the problem occur regularly or sporadically etc.)

Problem	Possible cause	Measure
No display No alarm (UPS switched off)	Main switch switched off	Switch on main switch
	No mains voltage present	Have mains inspected by qualified electrician
	Input fuse defective or input circuit breaker tripped	Replace with fuse of same type or switch on circuit breaker. If the problem persists, contact the responsible customer service representative.
MAINS indicator does not illuminate, acoustical alarm sounds in intervals	No mains voltage present	UPS operation (see "Operational behaviour" on page GB - 27)
MAINS indicator flashes	Phase and neutral lines swapped at UPS input.	Pull out mains plug and plug back in correctly (see "Installing the UPS devices" on page GB - 21)
MAINS indicator does not illuminate when mains voltage present, acoustical alarm sounds in intervals	Input fuse defective or input circuit breaker tripped	Replace with fuse of same type or switch on circuit breaker. If the problem persists, contact the responsible customer service representative.
ALARM indicator illuminates, acoustical alarm sounds continuously	UPS error	Contact the responsible customer service representative
	Overheating	Decrease ambient temperature

Table 6: Rectification of errors

Problem	Possible cause	Measure
Backup time less than that specified	The fuse switch of the battery extension(s) is in the "OFF" position.	Move the fuse switch to the "ON" position.
	The number of externally connected battery extensions was set incorrectly.	Correct settings (see "Commissioning of an external battery extension" on page GB - 23)
	Batteries are not completely charged	Charge batteries (see "Commissioning the UPS devices" on page GB - 22) and test backup time. If the problem persists, contact the responsible customer service representative.
	Batteries are defective	Contact customer service
	Charging device is defective	Contact customer service
OVERLOAD LED illuminates	Overload at UPS output	Reduce load to the permissible value
No communication between UPS and PC	Wrong serial connection cable	Check whether the correct cable has been used (standard modem/null modem cables are not permissible)
	Interface on the PC is being used by another process or is defective.	Check whether other software/service is accessing the interface on the PC; try selecting a different serial interface.
	Interference on the data cable	Lay cable differently.

Table 6: Rectification of errors

Technical data

Technical data for the models ACTIVE 700 to ACTIVE 3000

GB

UPS model		ACTIVE 700	ACTIVE 1000	ACTIVE 2000	ACTIVE 3000
Power		700 VA	1 kVA	2 kVA	3 kVA
Input	Voltage	1 N AC 220/230/240V			
	Voltage range	160 V to 276 V			
	Frequency	50/60Hz ± 5%, automat. frequency detection			
	Power factor (lambda)	0,95			
Battery	Integrated battery	Model	Lead, maintenance free		
		Voltage/V	24	36	96
	Autonomy time, half-load/full-load/min		12/6	15/7	24/10
	Autonomy time, 1 battery extension half-load/full-load/min			56/28	84/37
	Autonomy time, 2 battery extensions half-load/full-load/min			105/48	157/69
Output	Voltage		1 N AC 220,230,240 V		
	Voltage tolerance		± 3%		
	Frequency line-clocked		see Input frequency		
	Frequency self-clocked		50/60Hz ± 0.5%		
	Harmonic distortion (linear/non-linear load)		max. 4% / max. 8%		
	Perm. crest factor		3		
	Overload capacity		130% for 1.5 sec, 110% for 10 sec Output is short-circuit proof		

Table 7: Electrical data (ACTIVE 700 to ACTIVE 3000)

UPS model		ACTIVE 700	ACTIVE 1000	ACTIVE 2000	ACTIVE 3000
Electrical safety		EN 50091-1; EN 60950			
Radio interference level		EN 50091-2, Class B			
Emitted interference		EN 50081-1			
Interference immunity		EN 50082-1 IEC 801-2,Level 4 / IEC 801-3,Level 3 IEC 801-4,Level 4 / IEC 801-5,Level 3			
Mains pollution		EN 61000-3-2, EN 61000-3-3			
Efficiency		> 83 %			90 %
Degree of protection		IP20			
Cooling		Fan			
Noise level in dB(A), typical	Mains operation,	<39	<39	<45	<45
	battery operation	<40	<40	<46	<46
Perm. ambient temperature during operation		10°C to + 40°C recommended +15°C to + 32°C			
Perm. ambient temperature during storage		-15°C to + 40°C			
Perm. rel. humidity during operation		20% to 90%, no condensation perm.			
Installation altitude		max. 3000m, from 1500m max. Ambient temperature = 35°C			

Table 8: General data (ACTIVE 700 to ACTIVE 3000)

UPS model		ACTIVE 700	ACTIVE 1000	ACTIVE 2000	ACTIVE 3000
UPS	Weight / kg	11,5	14	33	33
	Dimensions / mm				
	Width	145		200	
	Height	225		350	
Battery extension	Depth	405		405	
	Model		BPACTIVE 1000	BPACTIVE 3000	BPACTIVE 3000
	Weight / kg		19	48	48
	Dimensions / mm				
	Width		145	200	
	Height		225	350	
	Depth		405	470	

Table 9: Mechanical data (ACTIVE 700 to ACTIVE 3000)

UPS model		ACTIVE 700	ACTIVE 1000	ACTIVE 2000	ACTIVE 3000
Mains connection	Model	IEC 320			IEC320
	Nominal current	10 A			16 A
Fuse protection of mains supply		6 A	10 A	12 A	16 A
Load connection	Number	4	4	4	2
	Model	IEC 320	IEC 320	IEC 320	IEC 320
	Nominal current	10 A	10 A	10 A	16 A
COM 3 interface		SUB-D, 9 pin, pins			
USB interface		USB, type B			
COM interface (optional)		SUB-D, 9 pin, socket			
EXT. OUTLETS CONTROL interface		SUB-D, 9 pin, socket			
Battery extension		none	plug, 3 pin		

Table 10: Connections (ACTIVE 700 to ACTIVE 3000)

UPS model	ACTIVE 700	ACTIVE 1000	ACTIVE 2000	ACTIVE 3000
Signalling	LED indicator on front side Acoustical alarm			
Message	Message contacts, see SIC option Interface RS 232/USB			
Operation	Signal input, see SIC option Interface RS 232/USB			

Table 11: Other data (ACTIVE 700 to ACTIVE 3000)

Technical data for the models ACTIVE 700-19 to ACTIVE 3000-19

UPS model		ACTIVE 700-19	ACTIVE 1000-19	ACTIVE 2000-19	ACTIVE 3000-19
Power		700 VA	1 kVA	2 kVA	3 kVA
Input	Voltage	1 N AC 230 V			
	Voltage range	160 V to 276 V			
	Frequency	50/60Hz ± 5%, automat. frequency detection			
	Power factor (lambda)	0,95			
Battery	Integrated battery	Model	Lead, maintenance free		External battery extensions only
		Voltage/V	24	36	96
	Autonomy time, half-load/full-load/min		12/6	15/7	
	Autonomy time, 1 battery extension half-load/full-load/min			56/28	24/10
	Autonomy time, 2 battery extensions half-load/full-load/min			105/48	51/24
Output	Voltage		1 N AC 220,230,240 V		
	Voltage tolerance		± 3%		
	Frequency line-locked		see Input frequency		
	Frequency self-locked		50/60Hz ± 0.5%		
	Harmonic distortion (linear/non-linear load)		max. 4% / max. 8%		
	Perm. crest factor		3:1		
	Overload capacity		> 130% for 1,5 sec, ~ 4 periods > 110% for 10 sec Output is short-circuit proof		

Table 12: Electrical data (ACTIVE 700-19 to ACTIVE 3000-19)

UPS model		ACTIVE 700-19	ACTIVE 1000-19	ACTIVE 2000-19	ACTIVE 3000-19
Electrical safety		EN 50091-1; EN 60950			
Radio interference level		EN 50091-2, Class B			
Emitted interference		EN 50081-1			
Interference immunity		EN 50082-1 IEC 801-2,Level 4 / IEC 801-3,Level 3 IEC 801-4,Level 4 / IEC 801-5,Level 3			
Mains pollution		EN 61000-3-2, EN 61000-3-3			
Efficiency		> 83 %			90 %
Degree of protection		IP20			
Cooling		Fan			
Noise level in dB(A), typical	Mains operation,	40 dB	40 dB	46 dB	46 dB
	battery operation	40 dB	40 dB	46 dB	46 dB
Perm. ambient temperature during operation		10°C to + 40°C recommended +15°C to + 32°C			
Perm. ambient temperature during storage		-15°C to + 40°C			
Perm. rel. humidity during operation		20% to 90%, no condensation perm.			
Installation altitude		max. 3000m, from 1500m max. Ambient temperature = 35°C			

Table 13: General data (ACTIVE 700-19 to ACTIVE 3000-19)

UPS model		ACTIVE 700-19	ACTIVE 1000-19	ACTIVE 2000-19	ACTIVE 3000-19
UPS	Weight / kg	13	16	10	11
	Dimensions / mm	482,6 87 485			
	Width				
	Height				
Body size	Depth				
	Dimensions / mm	410 87 412			
	Width				
	Height				
Battery extension	Depth				
	Model		BPACTIVE 1000-19	BPACTIVE 3000-19	
	Weight / kg		21,5	27	
	Dimensions / mm		482,6 87 448		
Width					
Height					
	Depth				

Table 14: Mechanical data (ACTIVE 700-19 to ACTIVE 3000-19)

UPS model		ACTIVE 700-19	ACTIVE 1000-19	ACTIVE 2000-19	ACTIVE 3000-19
Mains connection	Model	IEC 320			IEC 320
	Nominal current	10 A			16 A
Fuse protection of mains supply		6 A	10 A	12 A	16 A
Load connection	Number	4	4	4	1
	Model	IEC 320	IEC 320	IEC 320	IEC 320
	Nominal current	10 A	10 A	10 A	16 A
COM 3 interface		SUB-D, 9 pin, pins			
USB interface		USB, type B			
COM interface (optional)		SUB-D, 9 pin, socket			
EXT. OUTLETS CONTROL interface		SUB-D, 9 pin, socket			
Battery extension		none	plug, 3 pin		

Table 15: Connections (ACTIVE 700-19 to ACTIVE 3000-19)

UPS model	ACTIVE 700-19	ACTIVE 1000-19	ACTIVE 2000-19	ACTIVE 3000-19
Signalling	LED indicator on front side Acoustical alarm			
Message	Signalling contact +5V ... +12V (SIC)			
Operation	Signal input +5V ... +12V (SIC) Interface RS 232			

Table 16: Other data (ACTIVE 700-19 to ACTIVE 3000-19)

Usable Battery lifetime

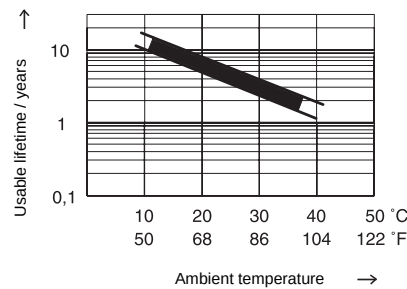


Fig. 19: Usable battery lifetime

The diagram shows the typical usable lifetimes of the batteries used in the UPS devices (only as a function of the ambient temperature of the devices).

In addition, the usable lifetime is also dependent on the cyclical use of the batteries, i.e. the frequency and duration of mains failures also reduces the usable lifetimes of the batteries.

Typical battery backup times

By combining UPS and battery extensions (BP), the typical backup times achieved with new, fully loaded batteries listed in the following table can be achieved (all listed autonomy times in **min**).

VA	Watt	ACTIVE 700(-19)	ACTIVE 1000(-19)	ACTIVE 1000(-19) + 1 BP	ACTIVE 1000(-19) + 2 BP
100	70	33	63	242	452
200	140	23	36	139	261
300	210	14,5	27	95	178
350	245	12	24	86	152
400	280	10,5	20	71	133
500	350	9	15	56	105
600	420	7	12	46	86
700	490	6	10	39	72
800	560		8,5	33	62
1000	700		7	28	48

Table 17: Backup times ACTIVE 700(-19) and ACTIVE 1000(-19)

VA	Watt	ACTIVE 2000		ACTIVE 2000 + 1 BP		ACTIVE 2000 + 2 BP
		ACTIVE 2000-19 + 1 BP	ACTIVE 2000-19 + 2 BP	ACTIVE 2000-19 + 3 BP	ACTIVE 2000-19 + 4 BP	ACTIVE 2000-19 + 5 BP
400	280	62	145	238	338	445
500	350	51	119	193	278	366
600	420	43	100	164	233	307
700	490	36	84	138	196	258
800	560	31	72	119	169	222
1000	700	24	51	84	119	157
1250	875	19	43	71	102	133
1500	1050	16	35	56	80	105
1750	1225	13	28	48	68	89
2000	1400	10	24	37	53	69

Table 18: Backup times ACTIVE 2000(-19)

VA	Watt	ACTIVE 3000		ACTIVE 3000 + 1 BP		ACTIVE 3000 + 2 BP	
		ACTIVE 3000-19 + 1 BP	ACTIVE 3000-19 + 2 BP	ACTIVE 3000-19 + 3 BP	ACTIVE 3000-19 + 4 BP	ACTIVE 3000-19 + 5 BP	
600	420	38	90	148	210	277	
700	490	34	80	131	189	248	
800	560	29	70	114	163	216	
1000	700	22	54	90	128	168	
1250	875	19	42	70	100	131	
1500	1050	14	31	52	74	97	
1750	1225	13	27	47	67	88	
2000	1400	11	24	40	56	73	
2250	1575	9	22	35	49	65	
2500	1750	7	19	30	44	57	
2750	1925	6,5	18	26	39	51	
3000	2100	6	14	25	32	43	

Table 19: Backup times ACTIVE 3000(-19)

CHLORIDE ADDRESSES

CHLORIDE WORLD HEADQUARTERS

Chloride Silectron
Via Fornace 30
40023 Castel Guelfo
Bologna
Italy
Telephone: +39 054 2632 111
Facsimile: +39 054 2632 120
italy.sales@chloridepower.com

AUSTRALIA

Chloride Hytek PTY LTD
Units C1A and C1B
Centrecourt Business Park
25-27 Paul Street North
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Australia
Telephone: +61 2 9888 1266
Facsimile: +61 2 9888 1966
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Facsimile: +33 1 6083 1816
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Facsimile: +33 4 7890 5890
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info@masterguard.de

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Chloride Silectron
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Italy
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Facsimile: +39 054 2632 120
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Telephone: +351 22 7151 210
Facsimile: + 351 22 7126 337
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